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PROFESSOR ANDRZEJ LASOTA, MY MENTOR AND FRIEND

Professor Andrzej Lasota presented a very restrictive attitude to the setting of assumptions of theorems. He definitely did not like the ones with too many assumptions – he believed they were formulated “for the sake of the proof.” He also insisted on meticulous checking if a given set of assumptions is a sensible one and if the objects it describes exist at all.

Once I have shown him a theorem about the supports of invariant measures of nonlinear Boltzmann equation – the equation itself being of special interest for him, since physics was his passion from the very first years at university. Well, he criticized it rather strongly, explaining that I should not assume so much about the invariant measure, while the sole purpose of such assumptions is the proof of the desired thesis. As a consolation, he added that generally speaking the theorem seemed interesting, but this version was not satisfying. He also suggested I worked a bit more on the subject. Frankly, I gave up that idea, concentrating instead on a different version of the theorem, more likely to get Professor’s approval.

Some time later I informed him that I had a new version of a theorem on asymptotic stability, more accordant with his own suggestions. To my surprise and without any hesitation he said that it was not important anymore and then unexpectedly returned to the original, criticized version. It turned out that he decided to work on my “too general” assumption – looking for an example of invariant measure whose support is not a whole space. And despite his search, he was unable to devise any counterexample. He then tried to prove that for all interesting (from the physics point of view) cases the invariant measure has a support being a whole space. And he did. Moreover, he turned those considerations about the invariant measures supports into the last article on Boltzmann equation. He was doubly delighted – as a mathematician and as an enthusiast of physics. Needless to say, I was happy as well.

While working on mathematics, we used to take a break from time to time – a space for a joke or some casual talk. This time we prepared for

ourselves a “tea with garlic” (this is a local specialty; the tea is real, while the garlic is a metaphor for some other ingredient). And as we were sitting there and sipping it, Professor Lasota laughed and summarized the story of the theorem, the assumptions of which he tried to improve: “You see, Henry, this is a typical situation Professor Opial referred to: sometimes mathematics is smarter than the mathematician.”

Professor Lasota was not only my mentor and master, but also my friend. He was the best man at my wedding. We celebrated our birthdays together (mine was on the 2nd of January, his – on the 11th). We had our favorite table in the Wunderbar. To some degree, our friendship was supported by our love for sport.

In particular, in the last years of Professor’s life, we used to visit my country house in Jeleśnia (a small village near the Beskidy mountains) and go skiing together. Not far from Jeleśnia – in Korbielów – there is one of most difficult ski pistes in Poland, for advanced skiers only. It starts on Mt. Pilsk. Professor was 70 when we tried it for the first time (for him). I was really anxious, because I knew that piste quite well, and so I tried to convince Professor to choose some other place. But I also knew his stubbornness and I was sure he would not give up.



Photo 34. Andrzej Lasota, February 2004

On the platform, skilift operator also tried to discourage him, arguing that never did any grandpa take such risk. That was what really irritated him, so I realized that the case was lost.

Surely, Professor skied down without any problems at all – and me too. The operator was really shocked and this time, lavishing praises, he was showing a proper respect. And when I wanted to pay for another trip, the man stated that as long as he was working here, Professor Lasota would ski for free.

Well, Professor lived in Cracow for many years, so I believe he was really satisfied with such solution. I suspect that skilift operator was not, as we were coming there for the next six years.

Well, another one, who did not appreciate Professor Lasota in time. After skiing, quite often we did shopping in a shop in Jeleśnia. Shortly after Professor’s death I went there alone. Seeing me, the shop assistant asked about my usual companion. I answered that he passed away. There

was a moment of silence, and then the man surprised me, saying “Mister Henry, he must have been a great man.”

Such a man was Professor Lasota. Even the shop assistant, who talked with him about shopping and weather only, not knowing a thing about him, recognized in him someone extraordinary.

During each skiing escapade in Jeleśnia we were never short of time for mathematics. It was simply impossible in the Professor’s company. One of such escapades is particularly memorable to me.

After a day skiing, sitting by the fireplace, we talked about mathematics. After some discussion, Professor suggested a very general hypothesis concerning the properties of Kantorovich–Wasserstein metric, related to the transport of mass problem.

At first he was convinced it should be true. Tired after many downhill rides from Pilsko, about 10 p.m. he asked me to work on it alone, since he needed a bit of rest. He promised me that later on we would discuss it further and talk about whatever result I was able to obtain.

The hypothesis absorbed me completely and I did not notice the passing time. After some analysis I realized that the thesis is possibly false. But I knew Andrzej well and I was sure that only the counterexample may convince him of contradiction. So, I concentrated my efforts on looking for it. The success came after some hours and I was obviously really satisfied – I was right, after all.

Suddenly I noticed that it was 8 a.m., Professor got up, surprised to see me so early. I explained I did not sleep at all, and what was worse, I disproved his claim, finding a counterexample.

Professor answered quietly: excuse me, but yesterday evening I forgot to warn you that usually one in three of my ideas is wrong. And he added that I was unlucky to hit just the one of the three.

I went to sleep. And upon my waking up, Andrzej Lasota informed me that – thanks to my counterexample – we had the theorem less general than expected, but another one, much more interesting in view of possible applications.

This was the origin of one of our joint papers, most interesting, considering my opinion as the co-author. It was published in *Nonlinear Analysis* and became the beginning of my road towards habilitation.